Amendments to the Specification:

Please replace the following numbered paragraphs:

[0023] The receiving circuit 50 generates an output voltage signal 52 that has two components. The first component is a first output voltage signal 62. The second component is a second output voltage signal 64. The first receiving electrode 54 generates the first output voltage signal 62 which, in the preferred embodiment, is a shifted minus cosine signal. The second receiving electrode 56 generates the second output voltage signal 64, which, in the preferred embodiment, is a sine signal. When the control circuit receives each of the first 62 and second 64 output voltage signals, it can map the values of each of these signals 62, 64 to determine the percentage of liquid 22 in the reservoir 12 to determine the level 24 of the liquid 22 therein. Two signals are required because a reading of one signal would produce two potential level readings because ~~the~~ each of the output signals repeat through a single cycle of measurements.

[0025] Referring to Figure 5, one embodiment of the electrical circuit controlling the sensing assembly 10 is generally indicated at 70. The electrical circuit 70 includes the excitation circuit 40 and the receiver circuit 50. The excitation circuit 40 is powered by a signal generator 72, whereas the receiving circuit 50, along with the signal condition circuit described subsequently, are powered from another power supply (not shown). The excitation circuit 40 includes the excitation electrodes 42, 44, 46, 48. In the embodiment shown, the first 42 and third 46 excitation electrodes are electrically connected together (they are at the same electrical field potential), and the second 44 and fourth 48 excitation electrodes are electrically connected together (they are at the same electrical field potential). An inverter 74 is connected to the signal generator 72 and the second and fourth excitation electrode 44, 48. It is the inverter 74 that creates the negative sinusoidal input identified as the second input voltage signal 38. A bias capacitor 76 may be needed to avoid phase inverse. The bias capacitor 76 is electrically connected between signal generator 72 and the second output port 60.

[0026] The first output port 58 and the second output port 60 are connected to a switch 80 that is controlled by a micro-controller 96. The switch 80 makes the signal condition circuit of the receiver circuit 50 have the capability to alternate receiving signals from the first output port 58, the first receiving electrode 54, and from the second output port 60, the second receiving electrode 56. The amplifier 84 and feedback impedance 88 form a current-to-voltage converter stage. The negative ~~positive~~ input terminal 86 of the amplifier 84 is connected to ground. The positive ~~negative~~ terminal 82 of amplifier 84 is connected to both the switch 80 and the one terminal of the feedback impedance 88. The negative terminal 86 ~~82~~ is forced to virtual ground. An unbalanced current caused by an unbalanced capacitance between the first receiving electrode 54 and the first 42 and second 44 excitation electrodes generates voltage output 90. The alternated current (AC) voltage signal 90 is then fed into the alternating current (AC) signal to direct current (DC) signal converter 92. This converter 92 converts the AC voltage signal to DC voltage signal. The DC voltage signal is then fed into a DC amplifier 94 to amplify the signal level. Finally, the amplified DC signal feeds into the micro-controller's analog-to-digital converter port and read by the micro-controller 96. The micro-controller 96 can control the switch 80 to select one signal from receiving electrode 54, input port 58, with output signal 62 or from receiving electrode 56, input port 60, with output signal 64.

[0027] In operation, the method used for measuring the level 24 of the liquid 22 in the reservoir 12 includes the step of applying the first input voltage signal 34 to the first 42 and the third 46 excitation electrodes and applying the second input voltage 38, that has the same frequency and amplitude as the first input voltage but with 180 degrees phase difference, to the second ~~third~~ 44 and fourth 48 excitation electrodes. The micro-controller 96 connects the switch 80 to the input port 58 so the receiving electrode 54 can be selected. Because the terminal 82 is virtually grounded, and the first excitation electrode 42 and the second excitation electrode 44 have the same frequency and amplitude input voltage but with 180-degree phase difference, the capacitance difference between the first receiving electrode 54 to first excitation electrode 42 and the first receiving electrode 54 to second excitation electrode 44 generates the unbalanced current. The unbalanced current through the current-to-voltage converter (amplifier 84 and feedback impedance 88) becomes the voltage signal at the output 90 of the amplifier 84. The voltage signal through signal conditional circuits 92, 94 feeds into A/D port of micro-controller 96 and is converted to digital signal and read by the micro-controller 96 as S1. Then, the micro-controller 96 sets the switch 80 to port 60, e.g., the second receiving electrode 56. This time, the unbalanced current caused by the capacitance difference between the second receiving electrode 56 to the third excitation electrode 46 and the second receiving electrode 56 to the fourth excitation electrode 48 is converted to voltage signal and through AC to DC converter 92, DC amplifier 94, and A/D port by micro-controller 96 as S2. The signal S1 and S2 are varied with level as shown in Figure 4. The first output voltage signal 62 is the S1 vs. percentage of level 24 and the second output voltage signal 64 is the S2 vs. percentage of level 24. The first S1 and second S2 values are used in the following two equations to calculate the level 24 of liquid 22: